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An
Inaugural Essay
On
Cholera Infantum
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in pretty nearly the following words; "The Cholera Morbus I Consider to be a Billious Fever settled in the Bowels; it appears at the same time, is produced by the same Causes, and requires the same treatment." The Cholera Infantum is closely allied to the bowel affections of adult life, and like them purely Gastric affection.

In Confirmation of this Opinion it will be recollected, that the Cholera Infantum and Cholera Morbus, always make their appearance after very hot and dry Weather has been succeeded by sudden Cold or Rain: again, it was most frequent among the poorer Class, who are not only exposed to the Vicissitudes of the Weather, but also to all manner of exhalations, which may arise from Putrescency, or Miasmata, hence the Stomach may be affected through the medium of the external surface, owing to a Constriction of the Skin, or by direct impressions from exhalations. It will therefore be perceived that this theory, which is also entertained by Doctor Chapman, is very readily explained.-

Doctor Enallis Martin of the Eastern shore of Maryland, a Physician of Considerable eminence, who has had Consid-

rable experience with our Autumnal Fevers, but more particularly the, Febris Infantum, agrees in every particular with what I have advanced, he believes it to be only a variety of the Intermittent, or in other words of Remittent Billious, which is merely a higher grade.—

From the foregoing observations; which bear not only the stamp of probability; but are supported by the most unquestionable evidence, founded on experience and Observation, what will be our Conclusion? with the greatest deference to knowledge, acquired by a long and laborious life, spent in the "Recesses of the Temple of Medical Science;" I submit my Opinion, that the Remittent, the Cholera Morbus, and Infantum are in Reality only varieties of each other, modified by particular Circumstances.—

The variety which I propose here to notice, is, particularly, the Cholera Infantum; this Consists in evacuations, both upwards, and downwards, of Billious matter; from this last Circumstance the disease derives its name.—

Doctor Condie whose practise in this disease has been very extensive assures us, that he seldom saw Billious matter

vacuated either upwards or downwards, but when a Bilious Stool was produced, the disease was soon put a stop to, and health restored. The general evacuation is watry sometimes of the Colour of blood.

It is a disease which may be Considered peculiar to the United States; in Europe Children are subject to Diseases which bear some resemblance to Cholera Infantum; but it is not Considered as precisely the same disease. Notices of the disease are to be found in almost every writer who treats of the Summer, and Fall epidemics. In Cleghorns diseases of Minorca, the disease is described precisely as it Occurs in the United States. It attacks Children about the age of One and two years, it appears in some seasons as early as July, but most Commonly in August or September, this depends very much on the Weather, which is by no means uniform in this Country.

Causes — The predesposing Cause is debility occasioned by a heated and impure atmosphere; but it may be excited by a Change of temperature, by errors in diet, worms &c.

Symptoms — It begins sometimes with a Diarhœa for

for several days; but most generally with violent vomiting, purging, and Fever; the discharge is most frequently billious, but this is not always the Case; the Child is in much pain, drawing up his legs; Pulse hard, but small. Head hot, extremities Cold; or else natural.–

The fever is Remittent with exacerbations in the Evening.– delirium sometimes takes place. A swelling, and tension of the Abdomen frequently occurs, great thirst attends every stage; vomiting sometimes attends without the purging, but most generally the Reverse is the Case.–

When the disease begins with violence, the spasmodic Contraction of the Intestines, are Communicated to the abdominal muscles, and frequently to those of the limbs. In this manner the disease frequently increases rapidly, till the strength of the Patient is exhausted; at the same time a Coldness of the extremities, Cold sweats, and faint Coming on. Death is inevitable.–

"In the mild grade, a Febrile Paroxysm is observed every second or third day. In Cases of more violence, distinct Paroxysms are not so clearly marked; the Stomach being so

Constantly disordered." (Doctor Martins Letter)

Another Symptom not before mentioned has been Observed in the Suburbs of this City, it is the pulse, which was extremely small, and at the same time as hard as a wire.

The emaciation of the Patient is extreme; leaving little but the flaccid skin, upon the Bones of the Infant - the emaciation takes place very rapidly.

Prognostics. A very frequent and depressed pulse; sudden loss of Strength; dullness of the eyes; insensibility; frequent sighing; slow Respiration; Clammy Cold sweats; are the precursors of Dissolution - To these may be added; "Deadly Nausea, and an unremitting Retching to eject something from the Stomach without effect, an emaciation of the Body, livid spots &c" (Dr Martins Letter)

"An exorbitant discharge both upwards and downwards; faintings, hiccup, Convulsions, Coldness of the extremities, Cold sweats, a small intermitting pulse, and the Continuance of the Other Symptoms, after the loosenes and vomiting have Ceased; are mortal signs"

"But there are hopes of Recovery if the Vomiting stops

sleep succeeds, and the Patient appears to be Relieved; and also if the disease be protracted beyond the seventh day"
(Sydenham)

Treatment. "Whenever a Child in the Autumnal Season is taken with Nausea, and vomiting, and exhibits Symptoms of approaching Fever; as a dry and hot skin, and quickened pulse; we may Consider the Cholera Infantum as having Commenced, and instantly prescribe for a Child, say two years old, Calomel 4 Grs; to be repeated the next day, unless some Symptoms forbid it. If this is done before a Complete paroxysm of Fever has taken place, it generally arrests it; but if Otherwise it has the happy effect of Obviating for the present, all affections of the Stomach and Bowels."
(Doctor Martins Letter)

We are seldom Called however before the Disease is Completely formed it then becomes necessary to pursue a different Course of practice, our first object in this Case is to allay irritation, this being done, we should resort to evacuants.—

To meet the first indication the Warm bath and Anodyne Injections stand preeminent. Sinapisms, Cloths wrung out with Spirits, with Tinct Opii. are beneficial.

As an injection the following is recommended –

℞ Tr. Opii – gtt XL.
Gum Arabic ʒ ij
Aqua Fprid ʒ iij M. f. Enem:

Repet: pro re nata.

The internal Remedies are Opiates – Tinct Opii Combined with Cinnamon draught &c.

The following has been used with Success in this City to arrest the vomiting – Aq: Pura lb. i – Carb. Soda ʒi – Tinct Opii gtt X – Aq: mentha ʒ fs. M. Cap: Cochl: mag: omn. 3tia ve 4ta hora

The disease is most generally ushered in with a hot skin, Pulse irritated and quick, great thirst, and pain about the Umbilicus; Bleeding is then most imperiously demanded: during the past Summer I have every reason to believe that but very few Cases occured, when the lancet was not called for – when however active inflamation is not present we have the experience of Doctor Chapman to justify the use of Ipecacuana as an emetic; it evacuates

gives a tone to the System, equalizes excitement, and determines to the skin -

Having thus prepared the Stomach for the Reception of evacuants we may give Ol. Ricini - Epsom salts &c; if not a very young Child Calomel either alone or Combined with Opium; it may be made into Pills with Conserve of Roses by mixing Calomel Grs X to Opium Grs ij to be divided into Ten Pills, one to be taken every half hour -

After evacuations have been premised considerable irritation generally remains. we must therefore endeavour to Calm irritation, and determine to the Surface, with this Object in view the following is Recommended.

℞ Calomel Gr ij
Opium Gr. i
Ipecac Gr iij
Conserve Rosar q. s
M. f. Pile viij

Capiat, Omni quarta hora indie

When the pain and irritation are violent, we may increase the Opium, or resort to Anodyne Injections, thes speedily Calms

the Stomach after which the other symptoms will generally subside.

If there is not an equal temperature diffused over the Surface, the Warm bath will be proper to equalize excitement, Salt Mustard or Brandy may be added if great debility is present.

Unless pain, a small and Corded pulse, a tense and hot Abdomen indicate danger of Inflamation, blisters will not be necessary; but under the above Circumstances they are Indispensable. a good application to the Stomach to stop puking is Pol. Menth. stepped in hot Water and applied as hot as Can be borne.

Such is the treatment which has been found to be most successful in subduing a disease, which in point of mortality acknowledges no superior "No distemper" says Sydenham "is as destructive as the Cholera, except the plague or some pestilential fevers."

It may perhaps not be amiss to sum up in a few words the practice observed by Doct Charles D. Meigs of this City, who it would appear has been very successful; as it is in some manner different from the preceeding treatment.

Doctor Meigs states that after the Intestines have been

Cholera Infantum.

By Cholera Infantum is understood in the United States, the vomiting and purging of children. From its almost uniformly occuring in the summer months in Philadelphia, it is frequently, and especially by the vulgar, denominated the disease of the season, or the summer complaint. Dr. Rush has asserted, that Cholera Infantum never makes its appearance in Philadelphia until the middle of June, or 1st of July; and generally continues until about the middle of September. Were this disease as much confined to the summer months in other climates, as it is in this, it might with very great propriety be denominated the summer complaint.

But in Charlestown its mutations are announced in April and May; And hence it then assumes the name of April and May disease.

It appears to be the same disease, which Dr. John Byne has named Atrophia Ablactatorum, bei-

-ng merely a Latin translation of wearing brast, the vulgar name, by which it is known in Scot-land. The phenomena of the disease as it appears in the two countries, are not, however, precisely similar. But this is not expected to be the case in a disease depending so much on climate; Nor is there a greater dissimilarity in them, as discribed by Dr. Chyne and Dr. Chapman, than we might expect ~~[illegible]~~ from the difference in the climates; especially when we see how much the disease among us depends upon temperature, I conceive these opinions receive a strong corroboration from the observations of Dr. Chyne. The duration of Cholera Infantum he says is varied by the seasons of the year, and by the changes in the temperature of the weather. A cool day frequently abates its violence and disposes it to a favourable termination. The great equality of the climate of Great-Britain we should expect would render its occurance less frequent and less confined to particular seasons

its symptoms less violent, and more tractable, and its progress less rapid, even when advancing towards an unfavourable termination.
We have already shown, that in Philadelphia it is a disease of the summer months. Dr. Clyne considers it to be generally a disease of the autumnal months in Scotland. He says he has seldom seen it commence before the summer solstice or after the end of the year, being most prevalent in sickly seasons." In his treatise on this disease he has published eleven cases, three of which commenced in May, one of them as early as the 6th and one case which commenced about the middle of November. The dates of these do not correspond exactly with the limits he has assigned: but they show that the period of its prevalence is about twice as long in Scotland, as Dr. Rush has assigned to it in this City. In that country the disease is seldom fatal within the 6th or 7th day, but in Philadelphia the disease is sometimes

fatal within a few days, and Dr. Chapman has seen a case where it terminated fatally within twenty four hours. of these differences in the disease, as it appears in the two countries, we shall say more presently. The predisposing cause of Cholera Infantum consists in the debility induced by the operation of the heated and impure air of large cities. The heated atmosphere probably produces some derangement in the functions of the biliary apparatus, thereby changing the characters and quantity of the bile. This probability is generally strengthened by the very commonly known effects of a tropical climate upon this apparatus. The principal exciting causes are improprieties in diet and clothing, especially the abrupt change from breast-milk to common food, and at a season when the chylopoetic viscera possess the greatest irritability. It is also brought on by sudden changes in the humidity and temperature of the air or other circumstances, that would suddenly obstruct perspira

tion. Among improprieties of diet, Dr. Rush reckons the various kinds of fruit. This opinion has been contested, but it is supported on the best authority. Dentition has been reckoned among the exciting causes of this disease; But as it appears only in warm weather when there are other exciting causes of this disease, and as there are no cases of it connected with dentition in cold weather, these circumstances would seem to furnish an argument to refute the opinion. This argument however, is not conclusive for why should dentition, more than the other exciting causes produce the disease, when the predisposing cause is wanting. During dentition the secretion of saliva is increased and the bowels sometimes rendered irritable and we are told by Mr. Burns that bowel complaints are produced by it. As the child is most obnoxious to the disease the second summer, and as it is about that time, that the process of dentition is produced and most troublso-

me, it is probable, that dentition sometimes causes and often aggravates the disease. As cases of this disease occur, in which worms are discharged in considerable numbers, it has been attributed to these also. But as there are cases, where Cholera Infantum has assumed the most malignant form without the sign of a worm; And as those cases where worms are concomitant, exhibit no unusual malignancy, it is probable the disease would seldome occur without the aid of some other exciting cause. This is one of those diseases upon which much light has been thrown by post mortem examinations. But it seems to have been investigated little or none until Dr. Clyne attempted it some more than twenty years ago. Previous to that time, he tells us the disease was not known to the Scotish Physicians. He says some of them had observed a purging as a very common consequen

-ce of weaning; But they supposed that it arose from a mesenteric enlargement in scrofulous children "which last opinion he entertained, until dissections gave him different views. The morbid appearances in dissection are confined to the abdominal cavity. None are discovered in the contents of the cranium or thorax. Dr. Chyne says "he observed in every instance, that the intestinal canal, from the stomach downwards, abounded with singular contractions, and had in its course one or more intussusceptions; that the liver was exceedingly firm, larger than natural, and of a bright red colour; And that the enlarged gall-bladder contained a dark green bile. In some dissections the mesenteric glands were swelled & inflated; in others, however, they were scarcely enlarged, and had no appearance of inflamation In this country, according to the observations of Dr. Chapman, the morbid appearances denote, as we might expect

more violent action. Marks of previous inflam-
ation may be seen in the whole extent of the alim-
entary canal. confined principally to the muco-
us membranes. Dark livid spots are to be seen
in this coat in the stomach and small intestin-
s, but particularly in the duodenum. The peri to-
neum is particularly affected, but the morbid
appearances on it are not considerable. The
hepatic apparatus is much changed, the liv-
er being very generally if not universally en-
larged, and considerably altered in its condi-
tion. It is very often indurated but more
frequently it is soft and flabby in its texture.
The gall bladder is usually filled with bile
variously vitiated and altered in its nature.
In Scotland the disease is generally slower in
its progress it there is more of a chronic nature.
we should calculate upon finding the liver
there more frequently and firmly ~~[illegible]~~ indu-
rated, and might expect also to find as we do

in this country more evident marks of inflamati-
-on. From investigations Dr. Cheyne and Dr. Cha-
-pman are both led to the conclusions, that Chol-
-era Infantum is a gastric affection in its
commencement, and that the hepatic system
is simpathetically drawn into a state of dis-
-order. The difference in the disease, as it ap-
-pears in Scotland and the United States, seem
-s to consist in this; In that country the pred
-isposing cause acts so feebly, that the disease
will be produced only when the exciting cause
acts most powerfully. And as the abrupt
weaning of the child, that is, the change of
breast milk for common food is the most
powerful exciting cause we might expect mo-
-st cases of Cholera Infantum to succeed wea
-ning, and that it might appear so often conne
-cted with, or to succeed weaning, as to acquire
its vulgar name of weaning brash. As the
disease depends then so much more upon

the exciting cause, whose operations are not confined to the summer months, we should not expect it to be so limited, as we find it when the predisposing cause acts most powerfully. Accordingly we find that the cases reported by Dr. Cheyne occured at various periods from the early part of May till about the middle of November. One reason, why this disease does not occur here as frequently in the autumnal months as in Scotland, is that the predisposing causes here act so powerfully, that the disease is developed in all, what are obnoxious to it before the end of Summer and that those, who have resisted the predisposing and exciting causes during the summer months, will without difficulty resist the latter, when the former no longer exist; For it can hardly be said, to exist here after the middle ~~the~~ ~~XXVII~~ of September, So great is the difference between our summer and

autum. Treatment. To impress one with the importance of thoroughly understanding the treatment of this disease, it is sufficient to examine the bills of mortality in our ~~country~~ cities and largetowns. For notwithstanding the nature of the disease is as Dr. Chapman says, "~~is~~ well understood and the treatment greatly improved; It still continues, even at this improved, and enlightened state of medical science, to destroy multitudes of Infants and even in more favourable cases to prove in a high degree obstinate and distressing. The diversified appearance that Cholera Infantum assumes, is not less difficult to be distinguished, than comprehended. It is sometimes connected with the Animal Epidemics which occur in sickly countries, and at other times more familiarly recognised in the forms of Remittent and Intermittent fevers. It is pretty generally agreed by the physicians of the United states, and particularly

impressed on the minds of the students by Dr. Chapmans pupils that a retreat from an unhealthy situation, and particularly a change from the air of cities to some salubrious part of the adjacent country is one of the best means, both to prevent and to cure the disease. The evidence in favour of this opinion must be obvious, and admitted by every one. But there are a large part of the community, upon whose circumstances in life, fortune has never smiled, and consequently, are prevented from embracing such advantages. In this case the best expedient must be resorted to, of which the circumstances of the individual will admit. The first indication which presents itself in the cure of this disease is to evacuate the stomach and intestins of the acrid contents. In effecting this purpose, some difficulty occurs in the outset, as to the choice of the means.

It is probable, that Ipecacuanha as an emet

it, and calomel or castor oil as a purgative, would answer very well. But when the stomach is in a state of great irritability, convulsed, and spontaneous vomiting has taken place, an emetic would be highly improper and dangerous. Before the administration of such a remedy, the violent action of the stomach should be quieted, or allowed to subside; and when it is discovered, that all the offending matter has been evacuated by spontaneous vomiting, it may be improper to administer an emetic. Or if there be great loss of strength and the disease should have proceeded with great violence, producing feebleness of pulse and a receding of heat from the extremities, an emetic would be very hazardous and attended probably with the most serious consequences. But it is stated by Dr. Darwin, that an emetic which soon ceases to operate will very frequently leave the stomach

stronger than before, which he says is owing to an accumulation of excitability during the stomach's inverted action. To relieve any doubt on this subject, it would be proper, when it is found that the primæ viæ requires evacuating to administer a close of castor oil or calomel, the close to be accommodated to the age of the patient and other circumstances. Calomel, particularly in bolus combined with opium, is recommended by Dr. Chapman as being a very successful practice in doses of one eighth to one quarter of a grain of Opium and from one to three grains of Calomel divided into eight or ten powders, to be given every two or three hours, If this produce too frequent discharges the opium is to be increased. Cholera Infantum being primarily a gastric disease such, sometimes, is the irratability of the stomach that no medicine will be retained.

It then becomes necessary to calm the stomach and allay irritation by anodyne injections, by fomentations to the stomach and the warm bath, except however in cases of very small children, the combination of calomel and opium is thought to be preferable. Dr. Miller prefers it for several reasons. The first is the ease with which it may be administered. The bulk is so small that it may be easily enveloped so as not only not nauseate, but to be quite agreeable. The second reason is that the specific gravity of calomel renders it very difficult to be dislodged from the stomach, even by the most violent vomiting. The third is that when calomel and opium are combined in this way, they can be given in much larger doses, than they ~~they~~ can separate as they are believed to soften and correct the powers of each other. Fourth when the disease takes on a fatal tendency, and there is reason to believe effusion in the

head or destruction of the organization of the stomach and bowels, unless the fatal termination takes place at a very early period, it is the best calculated of all our remedies to arrest that tendency. Fifthly Calomel when exhibited in small doses combined with opium, excites a strong absorbent action in the stomach and intestines. The metalic salts are said to possess more or less of the same power; and the activity of the absorption is found to be in proportion to the completeness of the evacuation previously made by the Calomel alone, or other evacuating means; As absorption is generally increased by depletion, whither by means of the lancet or purgation. It is now pretty generally agreed among Physicians that Calomel although gentle and safe in its operation is the most effectual and penetrating of all the medicines employed to clear the premae viae Sometimes the irreta-

tality of the Stomach is so great that violent vomiting takes place almost every minute, accompanied with thirst, ~~accompanied~~ and pain about the epigastric region with fever and quick pulse. It would be proper in such cases to evacuate the stomach with Ipecac, which relieves it of the distress and determins action from that part to the surface. But when there are a weak pulse distressful countenance, cold clammy sweats, eyes sunk and indicating a sinking condition of the system, we should avoid an emetic and resort to stimulants, such as are demanded in all bowel complaints attended with fever; After having prepared the stomach for the reception of Medicine, the effect of mercurial purges may be tried with some probable advantage; especially when combined with opium or epsome salts. Notwithstanding there are other purgatives in high repute that might be employed with tolerable success: yet the superior efficacy of mercury in discha

-ring substances whether biliary or of any other description, not easily removable by other purgatives, is well known to every physician, who has had an opportunity to compare them. Dr. Chyne's testimony in its favour is very unequivocal; Indeed he seems to place almost his whole reliance on it. He was induced to try it for the first time in a hopeless case by way of experiment, Since this cure he says "I have had the usefulness of calomel evinced by many accitional cases and now I have the firmest belief, that it will prove effectual at a stage of the disease, when no other medicine will, That I am acquainted with, would be attended with any permanent benefit. But to collect the testimony of later writers in favour of the use of Calomel in the bowel complaints of Children would be embodying the opinions of a multitudes; And to cite authority, to establish a point not contested, would be unnecessary. In the advanced stage of Cholera Infantum,

Allum may be frequently be employed beneficially. Having evacuated all acrid and offensive matter from the alimentary canal it is recommended to commence with small doses. Half a grain of allum in combination with a small portion of opium, to be gradually increased may be administered in a pill. The Sacharum Saturni, combined with Opium, has been advantagiously employed of late. When only a troublsome Diarrhoea remains, some of the vegitable astringents may be tryed with advantage. In addition to internal remedies it will often be advantagious and even necessary to have recourse to such external remedies as produce a determination to the surface and equal excitement. This is an indication of no small importance; and the most safe and efficacious means of accomplishing it are the warm bath and blisters. The excitement is often very unequal, the extremeties being very cold, while there is a burning heat in and about the seat

of the disease. The warm bath is probably more speedy in its operation and more agreeable, but probably less efficient and less permanent than blisters. These may be applied to the stomach, abdomen, or extremities at different stages of the disease, according to circumstances.
When the stomach becomes too debilitated to digest food and too irritable to retain the ingesta, the alkaline preparations, combined with mild aromatic tonics are sometimes given with advantage. But cases of this kind frequently occur, in which no means accomplish our wishes, so well as the seltzer water. Anodine injections are very beneficial, and in some cases seem to be our best remedy. The diet should be light and consist of liquid farinaceous preparations, sweetened with loaf sugar, to which some mild aromatics may be added, when no febrile symptoms exist. The patient should be allowed only a small quantity of drink at a time, as they are

inclined to drink after. Although this disease occurs at a season when little or no dress seems necessary for the comfort of the patient. It is never the less important in the management of it to attend to dress especially where we see such great inequality in the excitement. The patient should be clothed in flannel, particularly the extremities. Such gentlemen, are the views, I have adopted of the character, causes, and treatment of this disease. Should they be found accordant with your experience and observation, and the doctrine you have thence deduced, I will hope, that this exposition of them, notwithstanding its defects, will meet your approbation.

Robt. B. Jones.